# Yash Vinayvanshi

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## EDUCATION

**JAMIA MILLIA ISLAMIA**
B.TECH. IN COMPUTER ENGINEERING
Expected 2023 | Delhi, India
Faculty of Engineering and Technology
CGPA (till 5th semester : 9.6/10)

**KENDRIYA VIDYALAYA**
Class 12 CBSE BOARD
2019 | AGCR Colony, Delhi
92.6% (Phy., Chem., Maths, Bio.)
CLASS 10 CBSE BOARD
2017 | AGCR Colony, Delhi
CGPA 10/10

## ACHIEVEMENTS

QUALIFIED GATE CS&IT
2022 | AIR : 2799 | *scorecard*
QUALIFIED GATE ECE
2022 | AIR : 2306 | *scorecard*
JEE MAIN (B.TECH)
2019 | 97 percentile
JEE MAIN (B.ARCH)
2019 | 99.6 percentile
NCERT JAWAHARLAL NEHRU NATIONAL SCIENCE EXHIBITION
2018 | 1st position
for project : "In-wheel suspension system & its analysis"

## SKILLS

**PROGRAMMING**
Proficient :
C • C++ • Java
Competent :
Python • PHP • mySQL • PostgreSQL
Familiar :
Assembly • Bash Scripting

## COURSEWORK

Algorithms & Data Structures,
Object Oriented Programming,
Database Management,
Software Engg., Computer Networks,
Operating Systems.

## SEMINARS

Blockchain in Cryptocurrency
Stepper Motors & its Controllers.

## RESEARCH PROJECTS & PUBLICATIONS

**A new polynomial time heuristic for hamiltonian cycle problem**
Guide : Prof. Tanvir Ahmad | 2021 | *manuscript*

- Discovers atomic cycles in a graph and produces larger cycles by merging them. The heuristic takes guided local decisions on which cycles to merge to avoid any unreachable vertices in the long run.
- Implemented the algorithm on famous FHCP dataset and successfully detected hamiltonian cycles in several large(upto 1000 vertices) and difficult to solve instances using standard heuristics.

**A new heuristic for longest path problem**
Guide : Prof. Tanvir Ahmad | 2022 | *manuscript*

- Uses an augmented breadth first search which prunes and implants subtrees in the BFS tree based on cross edges to discover larger paths between source and destination.
- Produces exact results in several graph families like grid graph etc. in polynomial time and is found to produce close to longest path in several difficult graphs.

**A relationship between simple paths, non-simple paths & atomic cycles in undirected graphs.** (Ongoing)

**A distributed algorithm for the longest path problem.** (Ongoing)

## INTERNSHIPS & PROJECTS

**DEPARTMENT OF FOOD & PUBLIC DISTRIBUTION** Govt. of india
SOFTWARE DEVELOPMENT INTERN
Mentor : Mr. AJK Jose (Technical Director) | Jul 2022 - ongoing

- Working on Sugar & Ethanol Daily Electronic Reporting Service (SENDERS), which is a nationwide daily sugar and ethanol production and outflow reporting software with mill/distillery profiling, role based used management & Aadhaar based e-sign.
- Platform : Java, PostgreSQL.

**NATIONAL INFORMATICS CENTRE**
RESEARCH INTERN
Mentor : Mr. Chandan Pandey (Scientist) | Apr'21 - May'21 | *Certificate*

- Modelled the transportation problem in Food Corp. of India's godown network as an electrical circuit and demonstrated its use in producing approximately optimal transportation schedules with minimised cost.

**CONFERENCE MANAGEMENT SYSTEM**
DATABASE MANAGEMENT SYSTEM COURSE PROJECT
Guide : Asst. Prof. Faiyaz Ahmad | May 2021 - July 2021 | *Github*

- Developed a web application using PHP backend and mySQL database for management of submissions in a conference. Produced the relational diagram based on requirements and built a role based functionality for reviewers and submitters.

**TRAVELLING SALESMAN MAP OF INDIA'S 726 DISTRICTS**
INDEPENDENT PROJECT

- used simulated annealing, ant colony opt. and many other heuristics.